Threatened creeper (*Strophitus undulatus*), the State Special Concern notched rainbow (*Villosa constricta*), and the Significantly Rare eastern creekshell (*Villosa delumbis*). Rare species found in the North Flat River are the creeper, eastern creekshell, and notched rainbow.

Rare species found in the Flat River (proper) are the Significantly Rare Roanoke bass (*Ambloplites cavifrons*), the State Special Concern Neuse River waterdog (*Necturus lewisi*), the creeper, and the notched rainbow. Rare species found in Deep Creek are the Atlantic pigtoe, the creeper, the eastern creekshell, and the chameleon lampmussel. Rare species found in Lick Creek are the creeper and the chameleon lampmussel.

In addition to these rare species, several aquatic species are present that NC NHP maintains on its Watch List. These are the Federal Species of Concern pinewoods shiner [fish] (*Lythrurus matutinus*), mimic shiner [fish] (*Notropis volucellus*), and the Walker's tusked sprawler [mayfly] (*Anthopotamus verticis*).

PROTECTION AND MANAGEMENT: This site is designated North Carolina public waters. However, despite its great biological significance, it has no official protection, such as High Quality Water or Outstanding Resource Water designation.

There has been a proposal by the City of Durham to raise the water level of Lake Michie, just downstream on the Flat River, to provide a greater water capacity, as it is a water supply for the city. However, much of the adjacent Hill Forest (owned by N.C. State University) is a Dedicated State Nature Preserve, and flooding of that land would require a rescission of the Dedication by the N.C. Council of State. There has also been discussion of the creation of a second reservoir just upstream of the existing lake, which presumably would flood the river and some land into Person County. Either way, the fate of the lower portion of the Flat River is uncertain.

Existing point sources need to be maintained or modified to ensure the continued integrity of this aquatic habitat. In particular, chlorine and other toxic substances should be removed from all discharges and biological oxygen demand lowered to the minimum possible. Non-point sources of pollution and sedimentation also need to be controlled, including runoff from cultivated fields, clearcuts, construction sites, and impervious surfaces.

In order to be effective, water quality protection is needed not only for the reach that contains the significant biological resources, but should also be considered for all reaches upstream. Point and non-point sources of pollution, such as toxic spills, discharges from wastewater plants, and runoff from agricultural fields, clearcuts and impervious surfaces, occurring in headwaters have impacts not only on the portions of the streams they feed directly into, but also as far downstream as the water flows.

RARE PLANTS: None known.

RARE ANIMALS (Person County portion)**:** Neuse River waterdog (*Necturus lewisi*), Roanoke bass (*Ambloplites cavifrons*), triangle floater (*Alasmidonta undulata*), Atlantic pigtoe (*Fusconaia*